Space News
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Schirra To Pilot Six-Orbit Mission In September

Telstar Launch May Change Our Communications Set-up

As the Roundup goes to press, NASA in cooperation with the American Telephone and Telegraph Company is scheduled to launch a 170-pound Telstar experimental communication satellite from Cape Canaveral sometime this week. The launch was to have been no earlier than yesterday.

If successful, the Telstar experiment could change the entire international communications picture. Five years from now you may be able to pick up a telephone and "dial a star" to talk to London, Paris or the Far East. You could also spend an evening watching transatlantic television from Europe.

The first satellite built by a private company which also is paying for the cost of the launch, Telstar is scheduled to circle the earth each two hours and forty minutes. Beginning about 15 hours after launch, on the sixth through the ninth orbits, a series of tests are planned using Andover, Me. and Holmdel, N. J. stations.

They include a live telephone call between people at two different locations, through the satellite; a video tape transmission, a facsimile transmission of a current news picture; and the sending of high-speed data between two points.

Signals will be sent from the giant horn antenna at Andover up to Telstar. The satellite will receive the signals, amplify them ten million times and transmit them back to earth, where the larger Andover antenna is expected to receive the signals at far greater strength than the one at Holmdel.

A transatlantic demonstration, produced by the U.S. television networks, is planned after the domestic demonstrations and overseas technical tests have been successfully conducted. This overseas program will not occur until the satellite has been in orbit for about a week.

Representatives of the three U.S. networks and the European Broadcasting Union (EBU), which includes 16 countries, announced last month that the U.S. program will be a "reflection of what's going on in America that day. We want to use this medium eventually to communicate ideas and news. We're going to many countries in many tongues."

Said the EBU representative, "The European telecast aims

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Astronaut Walter M. Schirra, Jr.

Astronaut L. Gordon Cooper, Jr.

Gilruth Cites MSC Progress Despite Difficult Relocation

"We are well ahead of a schedule set last fall, which we thought then was an optimistic one," Dr. Robert R. Gilruth told the employees of Manned Spacecraft Center and their guests last Wednesday at the July 4 celebration welcoming MSC to Houston.

Commenting on progress made so far, he noted that the mission of the Manned Spacecraft Center was threefold: to manage the spacecraft development for this nation's manned space flight effort, to conduct the flight missions, and to develop here in Texas the free world's largest and most advanced research and development center devoted to manned space flight.

"In working on this mission during the past few months the Manned Spacecraft Center has doubled in size; accomplished a major relocation of facilities and personnel; pushed ahead in two new major programs; and accomplished Project Mercury's design goal of manned orbital flights twice with highly gratifying results."

Of the relocation and growth, Gilruth said, "Since September, 1961, when Houston was selected as our permanent site, we have acquired and moved into office, shop and laboratory space in 12 interim sites in Houston and out at Ellington Air Force Base. Our people are hard at work in these places conducting tests, making design studies, administering contracts, and working at the hundreds of other jobs required to operate a program like ours. We have moved a total of 751 employees and their families to Houston and hired another 689 people, essentially doubling our staff.

"As for program activities, during this major relocation effort we kept Project Mercury moving ahead full speed. We accomplished three major launches – the orbital flight of

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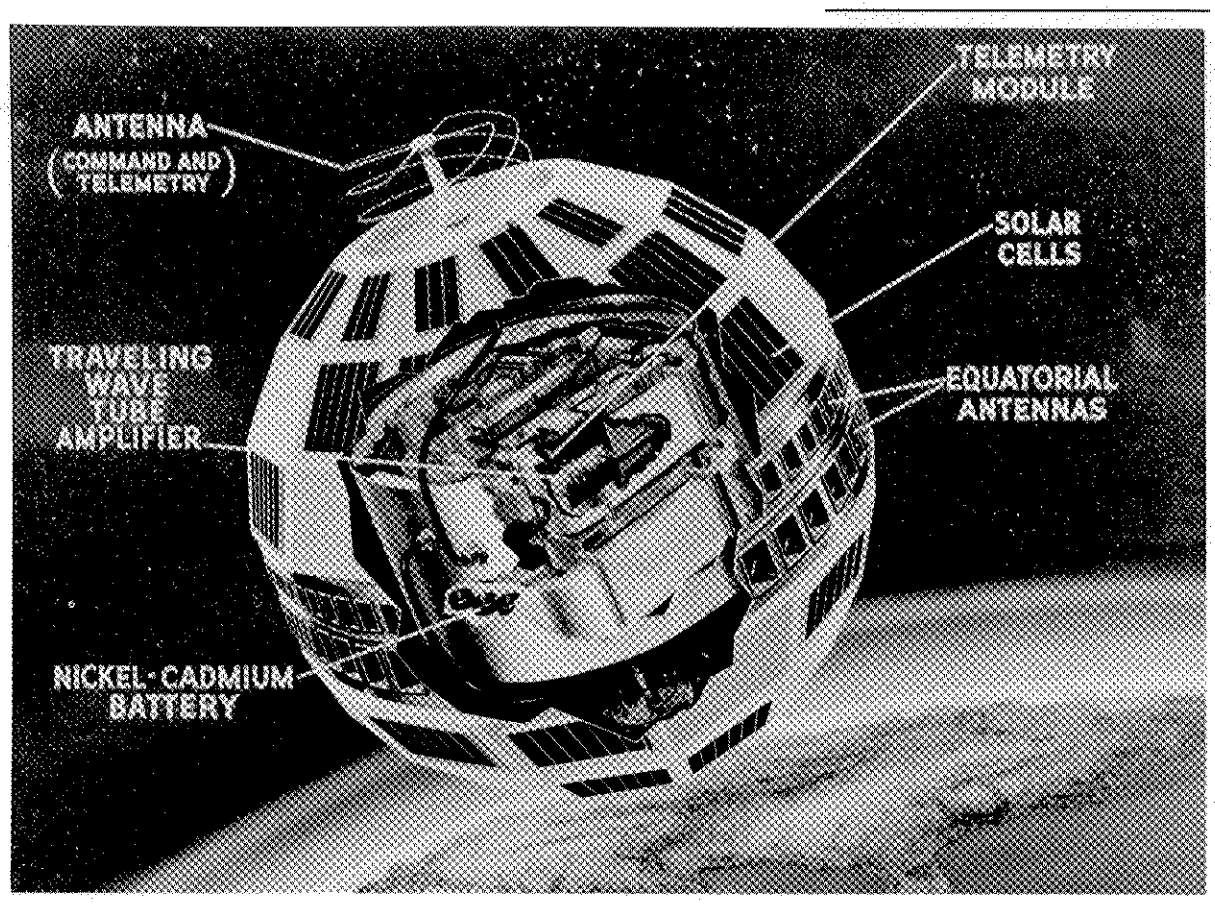

A CUT-AWAY DRAWING of the Bell System's experimental Telstar satellite, which is to be launched this week, weather permitting. (See additional pictures on page 3.)

Gordon Cooper Is Back-up Pilot For MA-8 Flight

The next United States manned orbital flight, scheduled for late September, will be planned "for as many as six orbits" with Astronaut Walter M. Schirra as pilot and Astronaut L. Gordon Cooper as back-up, it was announced June 27.

Commented Schirra, "I am very, very thrilled and looking forward to doing a job which is important for all of us."

The decision as to the specific mission – that is, how many orbits will actually be made – will depend on many technical factors which will be evaluated constantly up to the time of flight and during the first turns around the earth.

If the mission goes to six orbits, it would involve a nine-hour flight, compared with the four and one-half hours the two three-orbit missions to date have taken.

In addition, a flight of five or six orbits would mean landing about 300 miles northeast of Midway Island in the Pacific Ocean, the first time a U. S. spacecraft has landed in the Pacific rather than the Atlantic.

A four-orbit mission would bring the craft down about 200 miles east of Midway.

Landing points for one, two or three orbits would remain the same as in earlier Mercury-Atlas missions, off the southeastern coast of the United States.

Schirra, 39, a Navy commander, is an Annapolis graduate, married and has two children. He is a native of New Jersey.

Schirra flew 90 combat missions in a F84E jet in Korea, shooting down one enemy MIG. For Korean service he earned the Distinguished Flying Cross and two Air Medals.

After Korea he was a Navy carrier flight instructor and as a test pilot helped develop a whole family of super-fast jets including the Cutlass, Fury, Demon and Phantom. He has 3,200 hours of flying time, 2,000 of them in jets.

Married to the former Jo Fraser of Seattle, Wash., he has

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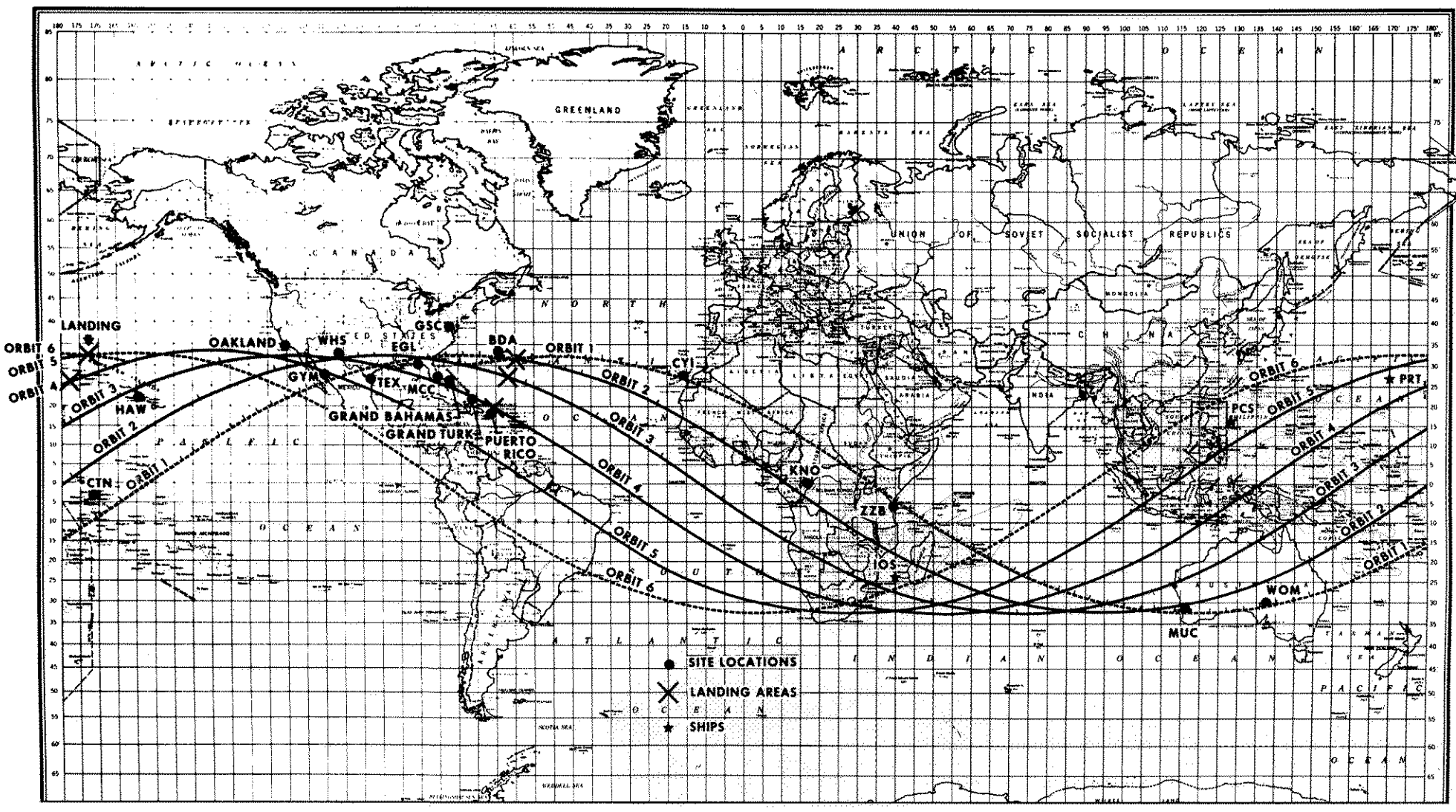

GROUND TRACK AND PRIMARY LANDING AREAS FOR 3-PLUS ORBIT MISSION

Gilruth Cites MSC Progress

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Enos, the chimpanzee; the free world's first manned orbital flight by John Glenn on February 20; and Scott Carpenter's three-orbit flight on May 24. Each of these operations was a major effort involving a world-wide deployment of flight-control, tracking, and recovery forces totaling about twenty thousand people.

"In this same time period, these people gathered here, at Manned Spacecraft Center, have conceived and begun implementation of two major new space programs, Projects Gemini and Apollo."

As an idea of the effort involved in Gemini, Gilruth said, "We are spending about 600 thousand dollars each working day on essentially a nationwide basis.

"With respect to our job of creating a research and development facility here, work has been underway on our new complex at Clear Lake for several months. The total progress has been such that we are well ahead of a schedule set last fall which we thought then was an optimistic one. The first building is now scheduled for completion next August and we should be moving personnel and equipment into the new site during the fall and winter of 1963-64.

"The Mission Control Center here in Houston will involve a major complex of electronic computing and communications gear to tie together a world-wide network of tracking stations operated by NASA and the Department of Defense. All of this equipment will be in operation well in advance of the actual flights in order that we can practice with it . . ."

"So much for the big picture of our recent accomplishments and future plans. I would like to speak directly for just a moment to our families gathered here. I realize there have been some undue burdens caused by your having to make this move while your husbands were still involved in the heavy travel schedule that our work requires. I want to commend every one of you for the unselfish way in which you have faced these difficult days."

MSC Associate Director Walter C. Williams, in a speech following Gilruth's, commented:

"In the history of the Mercury program, there were 16 spacecraft flights leading up to the first manned sub-orbital flight of Alan Shepard. Following that achievement, there were four additional flights prior to the orbital flight of John Glenn.

"Most people remember only the four manned flights and perhaps those of the chimpanzee. They sometimes tend to forget the many other flights which, although not as spectacular, do, however, represent major engineering and operational milestones.

"The Gemini and Apollo flight programs will undoubtedly follow the same pattern. There will be many difficult and important flights which may not appear to the general public as major accomplishments.

"Everyone must bear with us through an extensive series of "look alike" flights with a lack of identifiable milestones before Americans will land on the moon.

Six Orbit Mission Would Finish Up In Pacific Ocean

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two children.

Cooper, an Air Force major is 35, a native of Shawnee, Oklahoma, married to the former Trudy Olson of Seattle, Wash. His home town is Carbondale, Colo. where he and his mother own a small ranch.

Astronaut and Mrs. Cooper have two daughters, Camala K. and Janita L.

Three years at the University of Hawaii in Honolulu ended when he received a commission in the Army, later transferring his commission to the Air Force. Recalled for extended active duty in the Air Force in 1949, he flew F-84's and F-86's for four years and while in Munich, attended the European Extension of the University of Maryland Night School for one year. He attended the Air Force Institute of Technology at Wright-Patterson AFB, Ohio for two years, receiving a bachelor's degree in aeronautical engineering in 1956.

Assigned to the Air Force Experimental Flight Test School at Edwards AFB, Cal. he graduated in 1957 and was assigned to the Performance Engineering Branch of the Flight Test Division at Edwards where he participated in the flight testing of experimental fighter aircraft, working as an aeronautical engineer and test pilot.

Cooper has 2,600 hours of flying time, 1,600 in jet fighters. His hobbies are photography, woodworking, hunting, fishing and boating.

'Big Move' Is Over At Last

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major portion of the Center by Army Corps of Engineers, under the supervision of Col. R. P. West, Fort Worth District Engineer.

Currently leased, temporary facilities in Houston consist of 11 sites, totaling 528,888 square feet of floor space, not including in this total that of the Clear Lake site.

Concerning the permanent facilities at Clear Lake, the following are some of the first ones planned. A large thermal vacuum chamber facility will be constructed for space environment simulation upon the spacecraft and spacecraft systems. An antenna range will be included for checkout of communications systems; this will require about 4,000 feet of open ground with a transmission tower at one end and receiving towers at the other.

Liquid and gaseous rocket propellants for test firings will be stored in well protected fuel vessels, surrounded by a large area of open ground.

Credit Union Still Needs Depositors

On June 30, the number of MSC Credit Union members reached 190, with a total of $15,951.68 deposited. The Credit Union has made 42 loans totaling $16,380 and is overdrawn $58.41. Shares buyers and new members are badly needed.

Currently there are $6,470 in approved loans, and no money with which to make them. Members and loan applications are invited. Loans are issued on a priority basis as money becomes available, governed by the size of the loan requested and the urgency of the need.

The Credit Union is in the process of setting up representatives in each building to take memberships, and has such a representative in CEIR Building, Rich Building and at Ellington AFB. Volunteers for the other buildings are requested. Names and telephone numbers for each representative will be published in the Roundup as soon as the system is completed.

Telstar

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to show the wonder and diversity of our continent to American and Canadian viewers."

Television networks plan to transmit 12 minutes of current news pictures from a number of geographical locations in the U.S. This segment will also be shown to U.S. viewers as part of a longer program, from 30 minutes to an hour.

Other international demonstrations from the U.S. will include telephone conversations and photo and data transmissions. The voice demonstration will include a hook-up between people in 20 cities in the U.S. and 20 cities in Europe. Ten such conversations can be carried out simultaneously.

More than $30 million have already been spent on the communications sphere, and scientists see it eventually as a satellite network that will relay telephone conversations or television without interruption.